

Application Serial No. 10/715,623  
Reply to Office Action of September 26, 2008

PATENT  
Docket: CU-3456

**REMARKS/ARGUMENTS**

Reconsideration is respectfully requested.

Claims 1-9 are pending before this amendment. By the present amendment, claims 1 and 4 are amended. No new matter has been added.

In the office action (page 2), claims 1-2, 4-5, 7 and 8 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,052,347 (Miyata) in view of U.S. Patent No. 6,987,717 (Hagiwara). In the office action (page 5), claims 3, 6, and 9 stand rejected under 35 U.S.C. §103(a) as being obvious over Miyata. The "et al." suffix is omitted in a reference name.

The applicant respectfully **disagrees**.

In response, claims 1 and 4 have been amended to both clarify the present invention as well as traverse the present rejection.

The present invention relates to an optical disk apparatus capable of accurately measuring characteristics of an optical disk such that a recording power and speed can be more accurately set. That is, according to the present invention, an optimum power control processing (OPC) is performed using a power calibration area (PCA) that is set in inner tracks of an optical disk. Subsequently, write power compensation (WPC) is performed at predetermined positions on the disk so as to correct recording power or recording speed (specification col. 2, [0042]). More specifically, due to the characteristics of a disk, optimum recording characteristics vary between inner and outer portions of the disk, and according to embodiments of the present invention, the WPC processing is performed at predetermined portions during the recording time for correcting the optimum recording power at the predetermined positions (specification page 4, [0067]). Conventionally, the OPC is only performed in the PCA and therefore it is not possible to correct the power for the entire disk, due to the varying characteristics of the disk.

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Further, according to embodiments of the present invention, the WPC processing is performed on recorded data, not test data, the benefits of such a process are clear. Claim 1 (and similarly claim 4) have been amended to clarify the WPC process to recite:

--wherein verifying the condition measured by the signal condition measuring part comprises:  
obtaining a peak value and a minimum value of the signal recorded at a time before the predetermined position of interrupting the signal;  
utilizing the peak value and the minimum value to determine whether the recording power of the signal recorded a predetermined time before the position of interrupting the recording operation is within a predetermined range--

Support for this amendment is found at least in the specification page 4, [0073]-[0074], and as such no new matter has been added.

Claim 1 as amended obtaining peak and minimum values of the signal recorded before the recording was interrupted, and utilizing said values to determine whether the recording power is within a specified range. Then, as was previously claimed, the recording power and recording speed are corrected in accordance with the status of the verified recording condition, such that recording may be restarted with a correct recording speed and power.

Nowhere in either Miyata or Hagiwara, whether considered alone or in combination, teaches or suggests each and every element of claim 1 as amended above. As was previously argued, in Miyata, test recordings are made in any number of OPC areas (Miyata abstract). Therefore, in contrast to the presently claimed invention, Miyata teaches a method of optimizing recording power through an OPC method, which utilizes test recordings.

As described above, according to the presently claimed invention, **the recorded signal, not an OPC test signal, is used to determine the correct**

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**recording power and speed** (emphasis added). As such, Miyata cannot teach or suggest each and every element of claim 1.

As to Hagiwara, Hagiwara also teaches **test writing** to a predetermined area on the disk-type recording medium to determine an optimum recording power (Hagiwara col. 24, lines 42-49). Hagiwara further teaches monitoring a "B-value", which is different from a  $\beta$  value (see Hagiwara col. 24, lines 42-49; col. 25, lines 5-14; and FIG. 17; 107, 109), comparing a B-value with a targeted B-value, and utilizing an integrating unit 117 to correct the recording power.

However, nowhere in Hagiwara teaches interrupting recording at a predetermined position, verifying a measured condition by obtaining and utilizing peak values of the signal **recorded at a time before the predetermined position of the interrupting signal**, and correcting the recording power and speed according to the verified recording condition (emphasis added).

As such, neither Miyata nor Hagiwara, whether considered alone or in combination, teach or suggest all of the elements of claim 1, and similarly claim 4, at least for the reasons above. As such, an indication of allowable subject matter with respect to claims 1 and 4 is respectfully requested.

As to claim 7, the applicants respectfully submit that neither Miyata nor Hagiwara teach or suggest all of the elements of claim 7 as will be described.

In the office action (page 4), the examiner alleges that elements 11, 15 and ZONE 2 in Miyata FIG. 6 teach the setting of first to third condition measuring positions. However, Miyata is quite different from claim 7.

Miyata teaches providing OPC areas between a number of zones defined by set radii. That is, as shown in FIG. 6 of Miyata, Zone 1 is defined as the region of the disk between radius R1 and Radius R2. Zone 1 includes a data recording area

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13 and OPC areas 11 and 15. The zones of Miyata are defined by the radii.

In contrast to Miyata, in the presently claimed invention, the condition measuring positions are defined not by zone, but by a predetermined time shift from an arbitrarily defined first condition measuring position. The condition measuring positions are not analogous to the OPC areas of Miyata, because the OPC areas of Miyata do not vary depending on recording speed. That is, as shown in FIG. 4, the WPC positions of the presently claimed invention vary by absolute time according to recording speed. This is quite different from Miyata where the OPC areas are located irrespective of recording speed.

Similarly, nowhere in Hagiwara teaches this element of claim 7. As such, since neither Miyata or Hagiwara, whether considered alone or in combination, teach or suggest all of the elements of claim 7, an indication of allowable subject matter with respect to claims 7 is respectfully requested.

As to the dependent claims 2-3, 5-6, and 8-9, the applicants respectfully submit that these claims are allowable at least since they depend from one of claims 1, 4, and 7, which are now considered to be in condition for allowance.

For the reasons set forth above, the applicants respectfully submit that claims 1-9, pending in this application, are in condition for allowance over the cited references. Accordingly, the applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter.

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This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

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